Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 20 (canceled)

21. (currently amended) A method operative in a computer system for improving the performance of a database by determining whether or not to alter the fields of the database, having entities which hold a set of data values, said database including at least one set of linked entities, wherein the at least one set of linked entities contains a plurality of conceptual entities, each of the conceptual entities including a plurality of data values which are distributed amongst the plurality of the conceptual entities, comprising the steps of:

(i) determining an average read/write ratio of the plurality of data values distributed amongst the at least one set of linked entities in the database;

(ii) comparing the average read/write ratio of the database to a predetermined critical read/write ratio; and

(iii) if the average read/write ratio is greater than the critical read/write ratio, then performing the following method steps:

(iiia) defining an additional entity table in the database; and

(iiib) storing in the additional entity table an aggregation of said plurality of data values representing an aggregation of at least one of the plurality of conceptual entities, whereby the information defining the conceptual entity is obtained by performing a single read operation on the additional entity table[[.]];

(iv) altering the fields of the database when said average read/write ratio is greater than said critical read/write ratio.

22. (currently amended) The method in accordance with Claim 21, wherein the step (ii) for comparing the average read/write ratio of the database to said predetermined critical read/write

ratio includes provisions, so that said predetermined critical read/write ratio is calculated by carrying out the following steps:

(iia) providing data with regard to the time taken to perform a read operation and a write operation on a first implementation of the said database wherein said first implementation of a database comprises at least one set of linked entities;

(iib) providing data with regard to the time taken to perform a read operation and a write operation on a second implementation of the said database wherein the second implementation of the database comprises an aggregation of all data values stored in the at least one set of the linked entities;

(iic) calculating a read time difference between the time taken to perform a read operation on said first implementation of said database and on said second implementation of said database;

(iid) calculating a write time difference between the time taken to perform a write operation on said first implementation of said database and on said second implementation of said database; and

(iie) calculating the ratio between the read time difference and the write time difference to determine the critical read/write ratio for the database.

23. (currently amended) A[[n]] method~~apparatus~~ operating in a computer system using a CPU, memory, I/O unit and database on disk for modifying a database by determining whether or not to alter the fields of the database having entities which hold a set of data values, comprising:

(a) ~~means for~~ providing at least one set of linked entities, in the said database, wherein the said at least one set of linked entities contains a plurality of conceptual entities, each of the conceptual entities including a plurality of data values which are distributed amongst the plurality of conceptual entities;

(b) ~~means for~~ determining an average read/write ratio of the plurality of data values distributed amongst the at least one set of linked entities in the database;

(c) ~~means for~~ comparing the average read/write ratio of the database to a predetermined critical read/write ratio;

(d) determining ~~means arranged~~, if the average read/write ratio is greater than said the critical read/write ratio, to invoke;

(d1) ~~means for~~ defining an additional entity table in addition to the at least one set of linked entities;

(d2) storing means ~~arranged to store,~~ in said additional entity table, the aggregation of said plurality of data values representing an aggregation of at least one of said plurality of conceptual entities; and

(d3) reading ~~means enabled to read~~ said aggregation of said plurality of data values by performing a single read operation on said additional entity table to return the information defining at least one conceptual entity.

(e) modifying the fields of the database when said average read/write ratio exceeds said critical read/write ratio.

24. (previously presented) The method~~apparatus~~ in accordance with claim 23, wherein said [[means]]step (c) includes ~~means to~~ establishing a predetermined critical read/write ratio, wherein said ~~means to~~ establishing of said predetermined critical read/write ratio further includes the steps of:

(ca) ~~means for~~ providing data with regard to the time taken to perform a read operation and a write operation on the data values which are distributed amongst the plurality of entities;

(cb) ~~means for~~ providing data with regard to the time taken to perform a read operation and a write operation on said additional entity table;

(cc) ~~means for~~ calculating a read time difference between the time taken to perform a read operation on the data values which are distributed amongst the plurality of entities and on said additional entity table;

(cd) ~~means for~~ calculating a write time difference between the time taken to perform a write operation on the data values which are distributed amongst the plurality of entities and on said additional entity table; and

(ce) ~~means for~~ calculating the ratio between said read time difference and said write time difference to determine the critical read/write ratio for the database.

(cf) not modifying said database when said average read/write ratio is less than said critical read/write ratio.

25. (previously presented) A computer readable medium operative on a computing system, and incorporating a computer program including at least one instruction which, when loaded on said computing system, causes the computing system to perform the method steps of Claim 21.

26. (currently amended) [[A]] An electronic machine holding a computer, memory means, and electronic database which utilizes a computer program for improving the performance of said database including at least one set of linked entities, wherein the at least one set of linked entities contains a plurality of conceptual entities, each of the conceptual entities including a plurality of data values which are distributed amongst the plurality of the conceptual entities, said computer program including at least one instruction which, when executed by a computer system, is arranged to carry out the following steps:

(i) determining an average read/write ratio of the plurality of data values distributed amongst the at least one set of linked entities in the database;

(ii) comparing the average read/write ratio of the database to a predetermined critical read/write ratio; and

(iii) if the average read/write ratio is greater than the critical read/write ratio, then performing the following steps:

(iiia) defining an additional entity table in the database; and

(iiib) storing in the additional entity table an aggregation of said plurality of data values representing an aggregation of at least one of the plurality of conceptual entities, whereby the information defining the conceptual entity is obtained by performing a single read operation on the additional entity table.

27. (currently amended) The electronic machine of claim 26 which utilizes the said computer program for improving the performance of the database, wherein in step (ii), the predetermined critical read/write ratio is calculated by carrying out the following steps:

(iia) providing data with regard to the time taken to perform a read operation and a write operation on a first implementation of the said database, wherein the first implementation of a database comprises at least one set of linked entities;

(iib) providing data with regard to the time taken to perform a read operation and a write operation on a second implementation of the said database wherein the second implementation of the database comprises an aggregation of all data values stored in the at least one set of the linked entities;

(iic) calculating a read time difference between the time taken to perform a read operation on said first implementation of said database and on said second implementation of said database;

(iid) calculating a write time difference between the time taken to perform a write operation on said first implementation of said database and on said second implementation of said database; and

(iie) calculating the ratio between the read time difference and the write time difference to determine the critical read/write ratio for the database.